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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/049,539	11/07/2001	Yanling Zhou	ONDAT-017US	4104

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EXAMINER

PAIK, SANG YEOP

ART UNIT	PAPER NUMBER
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3742

DATE MAILED: 04/22/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/049,539

Applicant(s)

ZHOU, YANLING

Examiner

Sang Y Paik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,7. 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 5, 6, 7 are rejected under 35 U.S.C. 102(b) as being anticipated by Ikegami et al (US 4,160,227).

Ikegami et al anticipates the structure claimed including a ceramic substrate such as alumina substrate with a conductive layer having ruthenium oxide, glass frit such as boronsilicate, bismuth and noble metals such as gold and silver.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1, 2, 5, 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann (US 4,888,467) in view of Ezaki (US 4,991,284) or Watanabe et al (US 5,064,573).

Hoffmann shows the structure claimed having a ceramic substrate with a conductive layer having ruthenium oxide, glass, bismuth and noble metals such as gold and platinum. However, Hoffmann does not show that glass is a glass frit.

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Ezaki shows a conductive layer having ruthenium oxide, glass frit and noble metals such as silver or palladium. Watanabe et al also shows a conductive layer having ruthenium oxide and glass frit. In view of Ezaki or Watanabe et al, it would have been obvious to one of ordinary skill in the art to adapt Hoffmann with glass frit in place of glass as an alternative form of glass to form a conductive layer.

5. Claims 3, 8 and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann in view of Ezaki or Watanabe et al as applied to claims 1, 2, 5, 6 and 7 above, and further in view of Murakami et al (US 5,996,067).

Hoffmann in view of Ezaki or Watanabe et al shows the structure claimed except having the ceramic substrate made of nitride or carbide ceramic.

Murakami et al shows a ceramic substrate made of alumina or other nitride or carbide ceramic having a conductive paste having ruthenium oxide, glass and noble metals. In view of Murakami et al, it would have been obvious to one of ordinary skill in the art to adapt Hoffmann, as modified by Ezaki or Watanabe et al, with the claimed ceramic substrate as an alternative materials that also provides a good resistance reliability and stability.

6. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann in view of Ezaki or Watanabe et al as applied to claims 1, 2, 5, 6 and 7 above, and further in view of La Bar (US 4,088,502).

Hoffmann in view of Ezaki or Watanabe et al shows the structure claimed except having the glass frit made of zinc boron silicate.

La Bar shows the glass frit made of zinc boron silicate which can withstand corrosion resistance. In view of La Bar, it would have been obvious to one of ordinary skill in the art to

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adapt Hoffmann, as modified by Ezaki or Watanabe et al, with the glass frit made of zinc boron silicate that can also provide high corrosion resistance and thermal resistance.

7. Claims 9 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffmann in view of Ezaki or Watanabe et al and Murakami et al as applied to claims 3, 8 and 10 above, and further in view of La Bar (US 4,088,502).

Hoffmann in view of Ezaki or Watanabe et al and Murakami et al shows the structure claimed except having the glass frit made of zinc boron silicate.

La Bar shows the glass frit made of zinc boron silicate which can withstand corrosion resistance. In view of La Bar, it would have been obvious to one of ordinary skill in the art to adapt Hoffmann, as modified by Ezaki or Watanabe et al and Murakami et al, with the glass frit made of zinc boron silicate that can also provide high corrosion resistance and thermal resistance.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sang Y Paik whose telephone number is 703-308-1147. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Teresa Walberg can be reached on 703-308-1327. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0861.

S. P. L.

Sang Y Paik
Primary Examiner
Art Unit 3742

syp
April 20, 2003